STENT DELIVERY SYSTEM WITH NESTED STABILIZER AND METHOD OF PROVIDING AND USING SAME

ABSTRACT

A stent delivery system deploys a stent having an inner periphery that defines an interior space extending lengthwise along at least a part of the stent and comprising at least one segment having relatively low column strength. The stent delivery system comprises a stabilizer which is disposed within the stent interior space and has a surface element adapted to engage the stent inner periphery in a region containing the low-column-strength segment. The surface element may comprise a sleeve or a coating having a high friction surface adapted to transmit adequate shear force to the stent to move the stent relative to the outer sheath upon deployment. Alternatively, or in addition, the surface element can include at least one radial protuberance. The protuberances may comprise rings of various cross-sections, axial lengths, or space sizes therebetween, or may be in the form of discrete barbs, bumps, or inflatable knobs arranged in a ringed configuration or helical pattern about the stabilizer. The stabilizer may also comprise an inner core and a heat-moldable compression sleeve surrounding the inner core, the heat-moldable compression sleeve having an outer surface comprising a plurality of protuberances defined by a thermal imprint of the stent inner periphery on the compression sleeve outer surface. A method for delivering a stent using a stent delivery system as described herein is also disclosed, as is a method for loading a stent and stabilizer having a heat-moldable compression sleeve into a stent delivery system.